GSM/GPRS/GPS TRACKER

USER MANUAL

Preface

Thank you for purchasing GPS Tracker. This manual shows how to operate the device smoothly and correctly. Make sure to read this manual carefully before using this product. Please note that specification and information are subject to changes without prior notice in this manual. Any change will be integrated in the latest release. The manufacturer assumes no responsibility for any errors or omissions in this document.

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1 Summary

Working Based on existing GSM/GPRS network and GPS satellites, this product can locate and monitor any remote targets by SMS or GPRS.

2 Applications

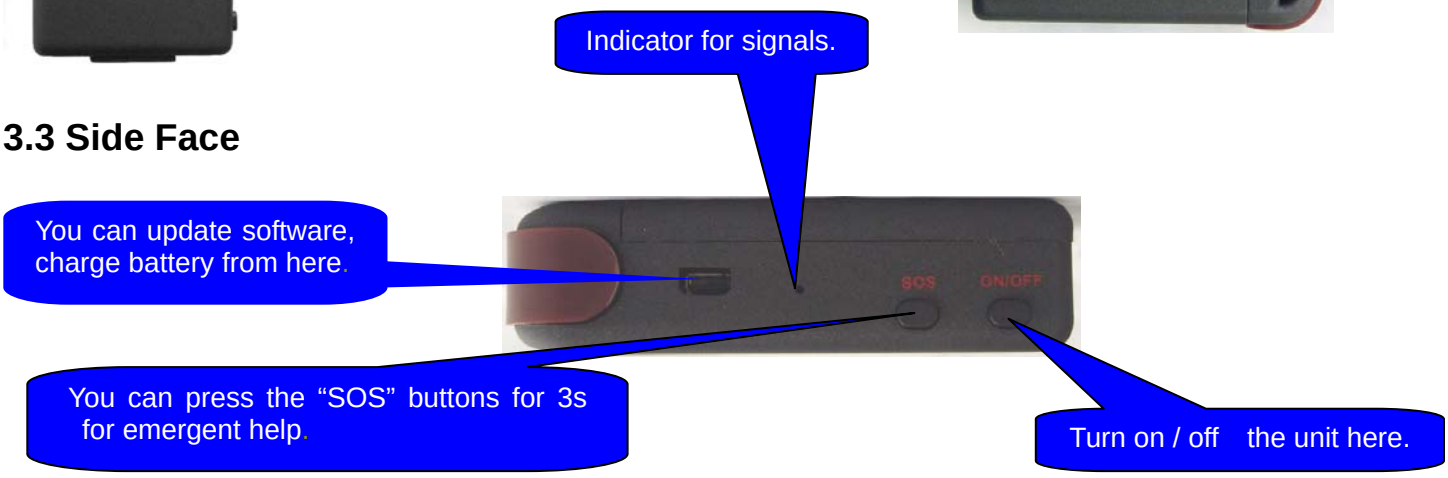
- Rental vehicle / Fleet management etc
- Protect the child / the old / the disabled / pet etc
- Protect businessmen
- Personnel management
- Covert Tracking

3 Hardware Description

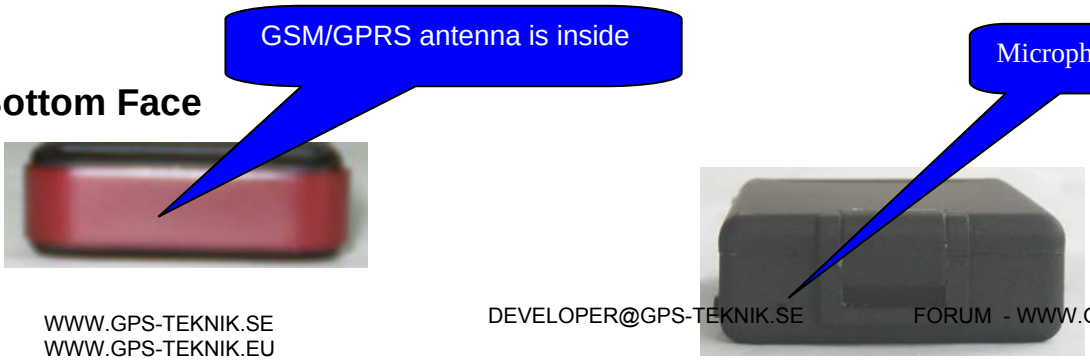
3.1 Front Face

3.2 Rear Face

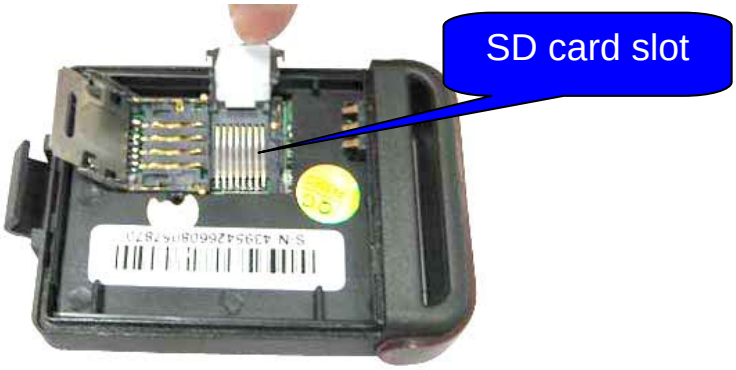
3.3 Side Face


Indicator for signals.
You can update software, charge battery from here.
SOS
ON/OFF
You can press the “SOS” buttons for 3s for emergent help.
Turn on / off the unit here.

3.4 Bottom Face



3.5 Interior



Install the battery like this.

4 Specs.

Content	Specs.
Dim.	64mm x 46mm x 17mm(1.8”*2.5”*0.65”)
Weight	50g
Network	GSM/GPRS
Band	850/900/1800/1900Mhz or 900/1800/1900Mhz
GPS chip	SIRF3 chip
GSM/GPRS module	Simcom300/Simcom340
GPS sensitivity	-159dBm
GPS accuracy	5m
Time To First Fix	Cold status 45s Warm status 35s Hot status 1s
Car charger	12—24V input 5V output
Wall charger	110－220V input 5V output
Battery	Chargeable changeable 3.7V 800mAh Li-ion battery
Standby	48hours
Storage Temp.	-40°C to +85°C
Operation Temp.	-20°C to +55°C
Humidity	5%--95% non-condensing

5 Usage

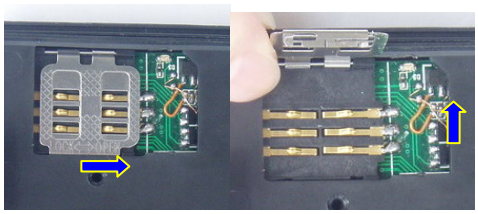
5.1 SIM card installation

Make sure that there is **no call transfer** and **call display is on**, and **PIN code off**. The SMS message must in Text format, can't be identified for PDU format.

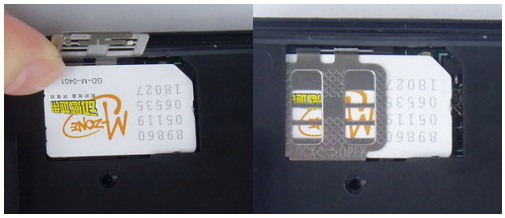
Steps:

1 Open the rear cover, and pick out the battery.

2 Push the foil along and turn it left.



3 Put the SIM card into the holder, and turn the foil right and fasten it in place.



5.2 Battery and Charger

Do charge the battery to capacity in 8 -12 hours for first use. Please use the battery and charger provided by the manufacturer. This unit adopts built-in Li-ion battery, and full battery will support around 48 hours use on end. After first use, the battery can be charged fully in 3-5hours.

Cautions:

a: For it's Li-ion battery, which contains harmful chemicals and may burst, please don't bump, puncture it violently and keep it off fire.

b: Please charge the battery in time to keep it working normally.

5.3 Startup

- Put the SIM card and battery in place.
- The unit turns on automatically when the sim card and battery is inserted.
- For the first use, please initialize the unit and restore it to default setting.(please refer to **5.4** for instruction.)
- In 10 or 40 seconds, the unit will begin to work and acquire the GSM signals as well as the GPS signals. The indicator will keep flashing every 4 seconds when the unit has received the signals, otherwise it will keep on.
- When this unit receives GPS signals normally, you can use it and do all the following settings.

5.4 Initialization

Send “begin+password” in SMS to the unit, it will reply “begin ok” and initialize all the settings. (default password: 123456)

5.5 Change the Password

Send SMS password+old password+space+new password to change the password.

Remark:

5.5.1 Be sure keep the new password in mind, you have to upload the software to restore the original setting in case of losing the new password.

5.5.2 Make sure the new password is in 6 digits, or else the tracker can not recognize the password.

5.6 Authorization

There are only 5 numbers able to be authorized.

5.6.1 Setup: Send SMS admin+password+space+cell phone number to set up a authorized number. The other authorized numbers should be set by the first authorized

number. If the number is successfully authorized, the unit will reply “admin ok!” in SMS.

5.6.2 Cancel: Send SMS noadmin+password+space+authorized number to delete the authorized number.

5.6.3 For roaming purpose, you have to add your country code ahead of the cell phone number, for example, please send admin123456 008613322221111 to tracker to set 13322221111 as an authorized number.

5.6.4 When an authorized number dials up the unit, it will hang up and report a real-time Geo-info as below:

Lat: 22.566901 long: 114.051258 speed: 0.00 14/08/09 06.54 F:3.85V,1,Signal:F help me imei:354776031555474 05 43.5 460 01 2533 720B

Lat: 22.566901 long: 114.051258==Coordinate

0.00 == speed

14/08/09 06.54== Date&Time

F:3.85V == battery power

1 == charging 0 means no charging

Signal:F == Full GPS signal 0 means weak GPS signal

help me == the SOS message, this section is blank for tracking message

354776031555474== IMEI

05=Means you get 5 GPS fix (from 3 to 10)

43.5=Altitude

460 = MCC Mobile Country Code

01 == MNC Mobile Network Code

2533= LAC Location area code

720B= Cell ID

(Remarl:GSM ID can be add or delect accroding to customer’s requirement)

5.7 Real-time Polling

5.7.1 If there is no authorized number, when any number dials up the unit, it will report a Geo-info; If there is already an authorized number, then it will not respond when an unauthorized number calls it up.

5.7.2 When an authorized number dials up the unit, it will hang up and report a real-time Geo-info as below:

Lat: 22.566901 long: 114.051258 speed: 0.00 14/08/09 06.54 F:3.85V,1,Signal:F help me imei:354776031555474 05 43.5 460 01 2533 720B

Lat: 22.566901 long: 114.051258==Coordinate

0.00 == speed

14/08/09 06.54== Date&Time

F:3.85V == battery power

1 == charging 0 means no charging

Signal:F == Full GPS signal 0 means weak GPS signal

help me == the SOS message, this section is blank for tracking message

354776031555474== IMEI

05=Means you get 5 GPS fix (from 3 to 10)

43.5=Altitude

460 = MCC Mobile Country Code

01 == MNC Mobile Network Code

2533= LAC Location area code

5.8 Auto-Track

Report a Geo-info at 30s intervals to the authorized numbers for 5 times:

5.8.1 Setup: Send SMS t030s005n+password to the unit, it will report the Geo-info at 30s intervals for 5 times.(s: second, m: minute, h: hour). The setting must be in 3 digits and at

maximum 255 in value.

5.8.2 Send SMS t030s***n+password to the unit, it will reply SMS heaps of times

5.8.3 Cancel: Send notn+password to delete the “ auto track ”

Remark: the interval must not be less than 5s.

5.9 Monitoring Mode (Voice Surveillance)

Send SMS monitor+password, the response from the tracker is “monitor ok”
In this mode, the user can dial up the unit to hear the voice around the tracker after your call.(please refer to **5.10** for instruction).

5.10 Modes switch between “track” and “monitor”

5.10.1. The default mode is “track”.

5.10.2. Send SMS monitor+password to the unit, and it will reply “monitor ok!” and switch to “monitor”mode.

5.10.3. Send SMS tracker+password to the unit, it will reply “tracker ok!” and restore to “track” mode.

5.11 Geo-fence

Set up a geo-fence for the unit to restrict its movement within a district. The unit will send message to the authorized numbers when it moves out of the district.

Notes: This function will be invalid if the unit moves outside the district. You need to re-set it if you want this function again.

5.11.1 Send SMS stockade+password+space+latitude,longitude;latitude,longitude to the unit to set the restricted district.

Remark: The first latitude&longitude is coordinate of the top left corner of the Geo-fence, while the second latitude&longitude is the coordinate of the bottom right corner. It will alarm one time in each setting.

5.11.2 Cancel: Send SMS nostockade+password to deactivate this function.

5.11.3 Response SMS format: stockade!+geo-info to the authorized numbers. It will alarm one time in each setting.

5.12 Movement Alert

This function is using for the owner to get alarm when the tracker moves out of a restricted district.

5.12.1 Set up: Send SMS move+password to the unit to set the movement alert.then the unit will reply “move ok!”. In case of such a movement, it will send SMS “Move” along with a Geo-info to the authorized numbers. It will alarm one time in each setting.

5.12.2 Cancel: Send SMS nomove+password to deactivate the movement alert.

Remark: This function will be out of effect after the unit moves outside the district.

Response SMS format: move!+geo-info. It will alarm one time in each setting.

5.13 Overspeed Alert:

This function is using for the owner to control the target’s speed.

5.13.1 Set up: Send SMS speed+password+space+080 to the unit (suppose the speed is 80km/h), and it will reply “speed ok!”. When the target moves exceeding 80 km/h, the unit will send SMS speed+080!+Geo-info to the authorized numbers. It will keep sending such an alert every 3 minutes.

5.13.2 Cancel: Send SMS nospeed+password to deactivate the overspeed alert

Remark: It is recommended that the speed alarm is set at not less than 50km/h. For below that rate, it may cause the excursion of the GPS signal influenced by clounds etc.

Response SMS format: speed+080!+Geo-info (suppose the speed is 80km/h).

The tracker will check the speed in 10 minutes interval and alarm if it is overspeed.

5.14 IMEI Checking:

Send SMS imei+password to the unit to check the IMEI number of the tracker.

5.15 SOS Button

Press the SOS for 3 second, it will send " help me !+ Geo-info" to all the authorized numbers every 3 minutes. It will stop sending such a SMS when any authorized number reply SMS "help me!" to the tracker.

5.16 Low Battery Alert

It begins to send SMS to the user every 30minutes when the the battery voltage is 3.7V.

SMS format: low battery+Geo-info.

5.17 Hidden Number Tracking

When a hidden authorized number calls the tracker, the tracker will reply SMS with the hidden number&Geo-info to all the authorized numbers.

5.17.1 Send SMS "hide number" to set up the hidden number.

5.17.2 Send SMS "nohide number" to delete the hidden number.

5.18 SMS Center

5.18.1 Send SMS adminsms+password+space+cell phone number to set the SMS center.

If the SMS center is set up, when an authorized number sends SMS to the tracker, the tracker will reply a SMS with Geo-info & authorized number to SMS center.

5.18.2 Send SMS noadminsms+password to cancel the SMS center.

Response SMS format: authorized number+Geo-info

5.19 GSM ID（this function can be add or delect for customization.）

There is GSM ID in each SMS from the tracker. The location of the tracker can be found according to the GSM ID in case of no GPS signal. GSM ID is make up of MCC(Mobile Country Code),MNC(Mobile Network Code),LAC(Location area code) and Cell ID.(refer to **5.6.5**)

5.20 Motion Sensor（this function can be add or delect for customization.）

This function is using for the user to get alarm info when someone touchs the unit.

5.20.1 Setup: Send shake+password+space+1-10 to the tracker to set up this function.(1-10 means the level of intensity)

5.20.2 Send SMS shake+password+space+1 is the lightest level of intensity.the tracker will send alert if someone touchs the unit heavily.

5.20.3 Send SMS shake+password+space+10 is the strongest level of intensity.the tracker will send alert if someone touchs the unit slightly.

5.20.4 Cancel: Send SMS shake+password+space+0 to remove this function.

5.21 SD card function

A mini SD card can be put in the tracker’s SD card slot. The GPRS data can be saved in the SD card if GPRS is off. It will send data to the GPRS server again if GPRS is on.

5.21.1 Setup: Send SMS sdlog123456 1 to the tracker to activate the function of storing data in SD card;

Cancel: Send SMS sdlog+password+0 to the tracker to deactivate the function of storing data in SD card.

5.21.2 Setup: Send SMS readsd+password+space+1 to ask the tracker to send data in the SD card to the GPRS server.

Cancel: Send SMS readsd+password+space+0 to ask the tracker to stop sending data in the SD card to the server.

5.22 GPRS Setting

In order to use GPRS function, the user needs to set IP, Port and APN (access point name) by either cell phone, or our PC software.

（**NOTE:** Some countries or regions should set APN's User Name and APN's Password.）

5.22.1 Set an IP address and port:

Setup: Send SMS adminip+123456+space+IP address+space+port.

If setup successful, the tracker will reply SMS "adminip ok"

Cancel: Send SMS noadminip+123456

5.22.2 Set APN

Setup: Send SMS apn+123456+space+specify apn content.

If setup successful, the tracker will reply SMS "APN ok".

Cancel: The old APN will be invalid automatically when a new APN is set.

5.22.3 Set APN's User Name

Setup: Send SMS apnuser+123456+space+the sim card's user name.

If setup successful, the tracker will reply SMS "apnuser ok".

Cancel: The old APN user name will be invalid automatically when a new APN uer name is set.

5.22.4 Set APN's Password

Setup: Send SMS apnpasswd+123456+space+the sim card's password.

If setup successful, the tracker will reply SMS "apnpasswrod ok".

Cancel: The old APN password will be invalid automatically when a new APN password

is set.

5.22.5 GPRS transport protocols

As soon as the IP & Port & APN are set up, the user can make a call or send SMS to tracker. The tracker will hand up and report the coordinates to IP address.

The message format sent by tracker to IP address is as following:

Serial number + authorized number + GPRMC + GPS signal indicator + command + IMEI number + CRC16 checksum.

For example:

090907070718,13145826175,GPRMC,070718.000,A,2234.0228,N,11403.0764,E,0.00,,070909,,,A*73,F,,imei:354776030042714,05,50.1,F:4.11V,0,132,40512,460,01,2533,720B

090907070718== serial number(date&time)

13145826175=== authorized number

GPRMC,070718.000,A,2234.0228,N,11403.0764,E,0.00,,070909,,,A*73,==GPSmode's Original GPRMC sentences

F=== Full GPS signal L=== No GPS signal

imei:354776030042714==the tracker's IMEI number

05===get 5 GPS number

50.1=== Altitude

F:4.11V===Full battery power L:3.65V===Low battery power

0===No charging 1===charging

132=== The length of the GPRS string

40512===CRC16 Checksum

460===460 = MCC Mobile Country Code

01==MNC Mobile Network Code

2533==2533= LAC Location area code

720C==720B= Cell ID

(NOTE:GSM ID can be add or delect accroding to customer;s requirement.)

For example, it will send GPS coordinates as below illustrated

Notes:

◆Our gprs supports TCP or UDP protocol, so please confirm whether your GPRS webserver supports TCP or UDP protocol before having the order.

◆ Please use the SIM card which is with GPRS function.

◆ Pls use the following SMS to set up GMT time in the SMS for the tracker

time zone+password+space+ the customer’s GMT TIME

◆ Pls use the following SMS to set up YOUR website in the SMS for the tracker

home+password+space+ the customer’s WEBSITE

home+password+space+space (if there is no website in the SMS)

6 Cautions

Please comply with the instructions to extend the unit life:

1. Keep the unit dry. Any liquid, i.e. rain, moisture, may destroy or damage the inside circuitry.

2. Don’t use & store the unit in dusty places.

3. Don’t put the unit in overheated or overcooled places.

4. Handle carefully. Don’t vibrate or shake it violently.

5. Clear the unit with a piece of dry cloth. Don’t clean in chemicals, detergent.

6. Don’t paint the unit, this may cause some foreign materials left in between the parts.

7. Don’t disassemble or refit the unit.

8. Please use the battery and charger provided by manufacturer. Using other batteries and chargers will cause unwanted situation.

9. Don’t dismount the antenna randomly, or use other antennas. This may interfere the transmission, and increase the radiation as well.

7 Faults & Solutions

Faults	Solutions
Startup Fail	Check the battery and see if it is fully charged or correctly installed.
Hangup Fail	In existence of an authorized number, an unauthorized number dials up the unit. Please initialize the unit and re-set up the authorized numbers.
Monitor Fail	Check if the authorized number is setup or in the coverage of signals.
Location report in digits of zeros.	Don’t use it in the place beyond reach of signals. Place the unit outdoors, especially when starting it up.